Skills of a Distance Educator:

A Review of the Literature

Alan Young

Instructional Technology

Utah State University

Fall 1997

Abstract

Because of the unique characteristics of distance education, teachers must learn new

skills to be successful at helping students learn in this environment. These skills are in the

areas of technology, students, the distance education team, and instructional design.

Distance education technology skills include becoming familiar with the technologies

that are available for use as well as learning how to use and utilize the available

technologies. A distance teacher should be skilled in working with students over a

distance, incorporating interactive learning activities into the instruction. The distance

teacher must also be skilled in working with other members of the distance education

team. Being able to create and adapt instruction for a distance environment is also a

necessary skill for the distance educator. As teachers incorporate these skills they will be

successful in teaching learners in remote locations

SKILLS OF A DISTANCE EDUCATOR: A REVIEW OF THE LITERATURE

Distance education is becoming an increasingly common and accepted form of learning. Distance education is made possible, even desirable, by advances in technology which allow a teacher to instruct students in multiple locations. Distance education allows a teacher to overcome the boundaries of space and time.

Students in the K- 12 educational environment are receiving increasing exposure to distance education. This education takes two forms. In the first, a classroom of students can use technology to access information from distant locations to develop their understanding "at home." In the second form, K-12 teachers use audio I video connections and I or the Internet to provide instruction to students at distant locations.

While distance education provides many benefits for K-12 education, its emergence presents new problems for teachers. There are differences between teaching over a distance and teaching face-to-face, and teachers must adapt their teaching style to make distance education effective (Dillon & Walsh, 1992; Gehlauf, Shatz & Frye, 1991). "By substituting the teacher-in-a-video-monitor for one who is present physically, without making any changes to the classroom organization or curriculum, the technology actually subtracts educational value" (Kinnaman, 1995, p.58). Distance education is emerging in K-12 schools and

new education skills are needed. However, distance educators are not receiving training for the needed skills. Currently, little or no training in distance education is provided for K-12 educators in their pre-service or in-service classes. "There is a lack of training opportunity in distance education which could help faculty overcome anxieties about technology and might improve teacher attitudes" (McI saac & Gunawardena, 1996, p. 429). As training in the unique skills of distance education is provided for K-12 educators they will be able to utilize the unique advantages of teaching and learning over a distance. The purpose of this review is to draw from the literature on distance education at all levels to outline the skills needed by K-12 teachers to be effective in the distance education environment.

There are some fundamental elements of instruction that should be applied in any instructional setting. This review assumes the necessity of these teaching skills and focuses on the skills of instruction that are unique to distance education. The skills that K-12 teachers need to be effective in distance education can be divided into three main areas, technology skills, people skills, and instructional design skills. While there is overlap between them, each of these will be discussed separately.

Technology Skills

Technology makes education over a distance possible. A teacher in a distance education setting must know what technologies are available for use and how to use (and utilize) those technologies. Minoli (1996) lists "technophobia" and computer illiteracy as two of the barriers to the growth of distance education.

The technologies teachers must be familiar with can be roughly divided into two categories: those used for synchronous (real-time interaction) and asynchronous distance education. Some of the technologies used for synchronous distance education include audio conferencing, video conferencing, radio, two-way satellite/microwave, and computer conferencing. For asynchronous distance education, technologies could include audiotapes, cable television, videotape, and voice mail (Thach & Murphy, 1995).

In addition to these technologies, computers are used in a large portion of asynchronous distance education, as well as some synchronous situations. In these settings, often termed an "online classroom," or "computer-mediated communication," teachers use the Internet, including the World Wide Web, computer conferencing, mailing lists, and bulletin board systems (BBS) (Berge, 1997; Minoli, 1996). Teachers must also become skilled in using networks (Berge & Collins, 1995; Lewis, Whitaker & Julian, 1995; Steele, 1995). Distance teachers use networks to exchange information with students and to access information for the course. With a network and other online

services, teachers can get information through library resource systems, including online databases and journals, external data bases, online applications, software libraries, and online interest groups (Beaudoin, 1990; Paulsen, 1995).

Part of teaching over a distance involves keeping up with the technologies involved. Distance educators should know where to get "information about updated hardware and software, technical assistance, maintenance and repair of equipment, communication with vendors, acquisition and cataloging of materials, demonstrating new hardware and software, and establishing standards and procedures" (Beaudoin, 1990, p.28). Distance educators should be familiar with the strengths and weaknesses of the particular delivery system they are working with (Willis, 1992).

In addition to knowing about the technologies used in distance education, teachers should know how to use the technologies that are available. "The effectiveness of your teaching is highly dependent on how well you can use the technology involved" (Moore & Kearsley, 1996, p.126; see also Thach & Murphy, 1995). "Both distance teachers and students must be skilled users of the technical system if the technology is to become transparent - unnoticed - during class discussions" (Gunawardena, 1992, p.59; see also Minoli, 1996; Witherspoon, 1995). The teacher should be comfortable enough with the technology that the process of working with it does not interfere with the instruction (Ho, 1991; Laney, 1996; Willis, 1994). Being comfortable with the technology includes being able to switch between devices in a synchronous setting, for example, switching between multiple on-site and off-site cameras and the computer. It also includes using the various computer features and other technologies in an asynchronous setting, without letting the

technology get in the way of the learning process (Minoli, 1996). The necessary skill is being able to "go beyond the technology and not let it dominate the environment or the focus" (Comeaux, 1995, p. 359). Teachers must also know how to sift through the mountain of information that the technology provides access to. This includes competency in filtering, filing, storing, and navigating through the information (Dierker, 1995; Lewis, Whitaker & Julian, 1995; Minoli, 1996).

Technology can be used to teach students over a distance, but the real benefit comes when teachers learn how to utilize the technology for maximum learning. "Teachers must know something about the potential of technology to facilitate learning and to enhance their own effectiveness" (Beaudoin, 1990, p. 22). Many studies of distance education compare it against traditional education to see if it measures up. However, in some ways distance education can be more effective than traditional education. As a teacher learns and plans for technically-mediated instruction, exploring new opportunities provided by the new medium, they introduce new power and responsibility to the learner (Connick & Russo, 1995; Kinnaman, 1995). Instructors can ask the question: "What do we intend to achieve by using this medium that wouldn't be achieved in some other way?" (Lewis, Whitaker & Julian, 1995, p.27). "The point here is that the future of distance education is not about moving from teacher as dispenser of information to technology as dispenser of information. It's about a collaboration between teachers and technology that overcomes the restrictions of time and space, enabling students to learn more, in less time, and with far less overhead" (Kinnaman, 1995, p.58).

The technology can also take over many teacher tasks, freeing the teacher to be more creative in doing those things that are most beneficial to teaching, e.g. interacting with students to promote discussion, critical thinking, and application (Beaudoin, 1990; Moore, 1993; Thach, 1993).

People Skills

Knowledge of the technology is an important key to success in distance education, but not the major key. "Although faculty need to understand how to use the technology, more important skills involve personalizing the instruction and incorporating student involvement strategies into the instructional experience" (Dillon & Walsh, 1992, p.16; see also Witherspoon, 1995). "Technology makes it possible . . . but the focus of it all is the student" (Witherspoon, 1995, p.17). Instructors can make the course more personal by learning specific things about students, and focusing on them rather than the technology (Elliot, 1995; Ho, 1991; Willis, 1992). In a study by Thach & Murphy (1995) interpersonal communication skills were listed as the skills used most often by distance educators.

Student interaction is a fundamental element of distance education. "Keeping students fully involved is an even greater challenge than usual, when they are in a different location" (Tiene, 1997, p.127). A lecture type presentation of course content is less effective for distance education, and teachers should avoid the "talking head" (Comeaux, 1995; Geblauf, Shatz & Frye, 1991; Gunawardena, 1992; Ho; 1991; Laney, 1996; Moore & Kearsley, 1996; Thach & Murphy, 1995; Willis, 1992). The literature

often speaks of "learner-centered instruction" and the teacher becoming a facilitator of learning rather than a dispenser of information (Beaudoin, 1990; Berge, 1997; Connick & Russo, 1995; Fowler, 1995; Gunawardena, 1992; Ohler, 1995; Willis, 1989; Willis, 1994). Assuming that learning is based on what students do rather than what teachers do, Beaudoin (1990) said "faculty engaged in distance education must be adept at facilitating students' learning through particular attention to process, unlike classroom-based teachers whose traditional role is largely confined to selecting and sharing content" (p. 21). One teacher said "I had to change my role from that of teacher at the front of the classroom and the center of the process to that of facilitator who is one with the participants and whose primary role is to guide and support the learning process" (Gunawardena, 1992, p.61). "We should try to conceptualize distance education as a more open partnership of teachers and self directing learners in which individual learners decide, conduct, and control much of the learning process" (Moore & Kearsley, 1996, p.135). A key to a successful distance education classroom becomes asking the right questions rather than having the right answers (Berge, 1997).

In addition to asking the right questions, there are many ways a teacher can encourage student interaction and become a facilitator of learning. "However, further research, especially of an experimental kind, is urgently needed concerning these techniques of facilitating interaction" (Moore & Kearsley, 1996, p.71). Because a certain element of non-verbal communication is lost in distance education teachers must specifically plan interaction activities into the class (Thach, 1993). A fundamental skill is establishing, over the distance, an atmosphere of warmth and interest where students feel

comfortable and willing to participate (Billings, 1995; Comeaux, 1995; MeHenry & Bozik, 1995; Rohfeld & Hiemstra, 1995; Thach, 1993). To promote interaction, teachers should be skilled in moderating discussion, collaborative learning activities, self-reflection, and what Berge (1997) calls "authentic learning activities (i.e. inquiry, problem-based activities, case studies, projects, peer critique and support)" (p. 44). Distance educators from an elementary school in Iowa suggest that teachers refer to students by name to answer questions or make comments, and to keep the students involved by watching and adjusting more cooperative and competitive student activities would also enhance the interaction (Eastmond & Ziegahn, 1995; Elliot, 1995; Lehman, 1995). According to Moore and Kearsley (1996), teachers should ask questions, encourage student presentations, and get students to talk to each other. Some activities to promote this are debates, simulations, games, role plays, and discussion groups (Billings, 1995; Comeaux, 1995; Paulsen, 1995). In addition to these activities, it is important for the teacher to be patient and wait for responses, as the technology may cause a delay (Willis, 1989; Willis, 1992).

Part of facilitating learning is adapting to student needs and backgrounds. Because the class takes place over a distance, teachers must learn how to appreciate and adapt to various cultures and lifestyles (Thach, 1993; Willis, 1994). The traditional classroom typically has students from one location so the students share a similar culture and homogeneous background. Since distance education can reach students in multiple locations, even throughout the world, the teacher must adapt to the student differences. Working with multiple locations also introduces potential scheduling conflicts for K-12

distance educators. Participating schools may be on different school calendars, or have class periods that conflict (Beaudoin, 1990; Tiene, 1997). Working with students from many different schools also makes it likely that teachers will they had to "water down" their curriculum in order to meet the needs of students at different schools (Tiene, 1997).

An important skill closely tied to interaction is giving and eliciting feedback over a distance. Because the face-to-face interaction, and thus a degree of immediate feedback, is lost, teachers must incorporate specific, individualized feedback methods (Dillon & Walsh, 1992; Gehlauf Shatz & Frye, 1991; Thach, 1993; Tiene, 1997; Willis, 1989). Not having enough, or good enough feedback is a source of frustration for distance learners (Moore & Kearsley, 1996). Willis (1992) suggests using a variety of delivery systems for interaction and feedback (i.e. phone, fax, e-mail, video). Distance teachers also need to receive feedback, and work to incorporate needed changes (Ho, 1991). After an assessment of a distance education program at an elementary school in Iowa, one of the suggestions was to "obtain as much feedback from students as possible" (Elliot, 1995, p. 3[7]). "Feedback can be obtained by direct questions, assignments, quizzes, polls, and questionnaires" (Moore & Kearsley, 1996, p.137).

Unlike a traditional classroom where the instructor can run the whole show, distance education requires a team effort. "Instruction is no longer an individual's work, but the work of teams of specialists - media specialists, knowledge specialists, instructional design specialists, and learning specialists" (Moore, 1993, p.4). Instructors in distance education must develop the ability to work with the other members of the team (Connick & Russo, 1995; Gehlauf, Shatz & Frye, 1991; Ho; 1991; Opitz, 1996; Thach, 1993; Thach & Murphy, 1995). "Unless the distance teacher makes a personal

effort to coordinate arrangements at the remote site and works as a team member, the

distance learning experience may be a very unsatisfying one for many students"

(Gunawardena, 1992, p.66). "This whole issue of administrative and support services in

distance education raises new requirements in knowledge and skill level. . . . the need for

the instructor to coordinate with site facilitators, technical assistants, and the institution

support staff is critical for success" (Thach & Murphy, 1995, p. 61).

       The instructor could wear many hats in the distance education team depending on

the specific context of the course. In some instances, the instructor will be just the

instructor for the course, likely also filling the role of content expert (Witherspoon,

1995). In other situations, the instructor may take on other roles. In their review of the

literature on competencies needed for distance educators, Thach & Murphy (1995) list

the following team members involved in a distance education class: instructor,

administrator, technology expert, instructional designer, site facilitator, technician,

support staff, librarian, editor, evaluation specialist, and graphic designer. In a given

circumstance, the distance education teacher may fill any one or any combination of these

roles.

Instructional Design Skills

Because of the differences between teaching over a distance and teaching in a traditional classroom teachers have to adapt or redevelop their instructional materials. The challenge is to design the class so there is an atmosphere of "distance learning, not distant learning" (Minoli, 1996, p.250). Planning is critical to a successful distance education course and deserves greater attention (Wolcott, 1993). A sound instructional design is fundamental to the success of any course. A whole book, or more, could be written on various models or approaches to use in designing a distance education course. Following are some of the elements of instructional design that distance teachers should be aware of as they prepare for a distance education class.

An import initial skill is to find out the needs of the learners. "Though the literature defines learner needs assessment and knowledge of learning styles to be important, in practice this does not often occur" (Thach & Murphy, 1995, p.70). This beginning assessment provides a focus for the design of the distance education class (Fowler, 1995). An instructor should conduct some sort of needs assessment whether designing a new course or teaching a previously designed course (Thach, 1993). "Overall, if you stay focused on the learners and their needs, you will be successful" (Opitz, 1996, p.326). The design for a distance education class should meet the needs of the learners, particularly in providing opportunities for the specific activities for teacher - learner interaction discussed above.

Another element of designing for distance education is planning ahead in order to best utilize class time. Designing a distance education course is a time consuming activity that requires more organization and planning than a traditional class, and should take place well in advance of the course (Gehlauf, Shatz & Frye, 1991; Gunawardena, 1992; McHenry & Bozik, 1995; Steele, 1995; Wolcott, 1993) In one study "instructors indicated that they felt a strong need to be well prepared for each televised class and that 'winging it' was not at all advisable" (Gehlauf, Shatz & Frye, 1991, p.25).

Selecting the appropriate medium is another part of good design. '1~his includes selecting the main medium for delivery (which is often pre-determined) and selecting the media to be used in each class. In selecting the medium the instructor should consider the content, the learners, what technologies are available, cost effectiveness, ease of operation, technical support, reliability, compatibility with existing systems, and ability to adapt to different settings (Ho, 1991; Thach, 1993; Willis, 1989). The medium should be chosen according to its effectiveness in assisting learners to understand the subject (Gunawardena, 1992). Sometimes a simple drawing is more effective than a multimedia presentation. A factor to consider in developing computer applications and online instruction is the size of the learner's computer. If it is a smaller and/or slower machine it might not be capable of handling some applications (Minoli, 1996). If the medium is pre-chosen, it is important to design the instruction to utilize that medium (Steele, 1995; Thach & Murphy, 1995).

Distance educators should also be familiar with the legal issues associated with delivering instruction over a distance. The Fair Use laws provide guidelines for educators. However, the Fair Use guidelines were developed for a traditional classroom, and things that may be within the bounds of the copyright laws in a traditional classroom may not be when they are sent through a medium to remote locations (Bruwelheide, 1994). It is beyond the scope of this paper to explore the various issues associated with copyright. However, distance educators should be aware of using copyrighted materials and copyright information on the instruction they are delivering.

Because distance education is relatively new in the K-12 environment, teachers must also be skilled in implementation, or introducing change. The distance educator will need to implement new technology and new teaching methods. One study is representative of the need for this skill. "Instructors indicated that traditional instructional methods are not effective in the interactive television classroom, although their own tendencies are to continue using traditional methods" (Gehlauf, Shatz & Frye, 1991, p.24). According to Fowler (1995), successful implementation of advanced educational technologies requires an understanding of current educational needs and procedures as well as an understanding of the characteristics of the new approach and the psychological factors that are involved in adopting a new system.

Conclusion

Because of the unique characteristics of distance education, teachers must learn new skills to be successful at helping students learn through this environment. Teachers should develop skills in using technology. This includes becoming familiar with the technologies that are available for use, and learning how to use and utilize the available technologies. A distance teacher should be skilled in working with students over a distance, incorporating interactive learning activities. The distance teacher must also be skilled in working with other members of the distance education team. Being able to create and adapt instruction for a distance environment is also a necessary skill for the distance educator. As teachers incorporate these skills they will be successful in teaching learners in remote locations.

References

Beaudoin, M. (1990). The instructor's changing role in distance education. *The American Journal of Distance Education* 4(2), 21-29.

Berge, Z.L. (1997). Characteristics of online teaching in post-secondary, formal education. *Educational Technology* 37(3), 35-47.

Berge, Z.L. & Collins, M.P. (1995). Volume three: computer-mediated communication and the online classroom in distance learning. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*, 1-12. Cresskill, NJ: Hampton Press, Inc.

Billings, D.M. (1995). Teaching and learning in the extended classroom: nursing telecourses. In E. Boschrnann, ed. *The Electronic Classroom: A Handbook for Education in the Electronic Environment*, 156-164. Medford, NJ: Learned Information, Inc.

Bruwelheide, J.H. (1994). Distance education: copyright issues. In B. Willis, ed. *Distance Education.' Strategies and Tools*, 233-247. Englewood Cliffs, NJ: Educational Technology Publications.

Comeaux, P. (1995). The impact of an interactive distance learning network on classroom communication. *Communication Education* 44(4), 353-361.

Connick, G. & Russo, J. (1995). Technology and the inevitability of educational transformation. *In* E. Bosehmann, ed. *The Electronic Classroom*: A *Handbook for Education Handbook for*

Education X Electronic Environment, 14-20. Medford, NJ: Learned Information, Inc.

Dierker, R.A. (1995). The Future of Electronic Education. In E. Boschmann, ed. *The Electronic Classroom: A Handbook for Education in the Electronic Environment*, 228-235. Medford, NJ: Learned Information, Inc.

Dillon, C.L. & Walsh, S.M. (1992). Faculty: the neglected resource in distance education. *The American Journal of Distance Education* 6(3), 5-21.

Eastmond, D. & Ziegahn, L. (1995). Instructional design for the online classroom. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*, 59-80. Cresskill, NJ: Hampton Press, Inc.

Elliot, I. (1995). Taking the fast lane on the information superhighway. *Teaching Pre K-8* 26(2), 34-39.

Fowler, L.S. (1995). Working together with technology. In E. Boschmann, ed. *The Electronic Classroom: A Handbook for Education in the Electronic Environment*, 215-221. Medford, NJ: Learned Information, Inc.

Gehlau{ D.N., Shatz, M.A. & Frye, T.W. (1991). Faculty perceptions of interactive television instructional strategies: implications for training. *The American Journal of Distance Education* 5(3), 20-27.

Gunawardena, C. N. (1992). Changing faculty roles for audiographics and online teaching. *The American Journal of Distance Education* 6(3), 58-71.

Ho, C.P. (1991). Instructional strategies for interactive television. *Journal of Special Education Technology*,]1(2), 91-98.

Kinnaman, D.E. (1995). The future of distance education. *Education Technology & Learning*]5 (4), 58.

Laney, J.D. (1996). Going the distance: effective instruction using distance learning technology. Educational Technology, 36(2), 51-53.

Lehman, J.D. (1995). Computer networking in distance education. In E. Boschmann, ed. *The Electronic Classroom: A Handbook for Education in the Electronic Environment*, 147-155. Medford, NJ: Learned Information, Inc.

Lewis, J., Whitaker, J. & Julian, J. (1995). Distance education for the 21st century: the future of national and international telecomputing networks in distance education. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*, 13-30. Cresskill, NJ: Hampton Press, Inc.

MeHenry, L. & Bozik, M. (1995). Communicating at a distance: a study of interaction in a distance education classroom. *Communication Education* 44(4), 362-371.

Mclsaac, M.S. & Gunawardena C.N. (1996). Distance education. In D.H. Jonassen, ed. *Handbook of research for educational communications and technology*, 403-437. New York: Simon & Schuster Macmillan.

Minoli, D. (1996). *Distance learning technology and applications*. Boston, MA: Artech House

Moore, M.G. (1993). Is teaching like flying? *The American Journal of Distance Education* 7(1), 1-10.

Moore, M.G. & Kearsley, G. (1996). *Distance education: a systems view*. Belmont, CA: Wadsworth Publishing Company.

Ohler, J. (1995). What K-12 teachers want to know about telecommunications in education. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*. Cresskill, NJ: Hampton Press, Inc.

Opitz, M. (1996). Interactive distance learning: implications for the classroom teacher. *The Clearing House*, 69(6), 325-326.

Paulsen, M.F. (1995). An overview of CMC and the online classroom in distance education. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*, 31-57. Cresskill, NJ: Hampton Press, Inc.

Rohfeld, R.W. & Hiemstra, R. (1995). Moderating discussions in the electronic classroom. In Z.L. Berge & M.P. Collins, eds. *Computer Mediated Communication and the Online Classroom*, 91-104. Cresskill, NJ: Hampton Press, Inc.

Steele, R.L. (1995). Pedagogical issues. In E. Boschmann, ed. *The Electronic Classroom: A Handbook for Education in the Electronic Environment*, 21-29. Medford, NJ: Learned Information, Inc.

Thach, E.C. (1993). Exploring the role of the deliverer in distance education. *International Journal of Instructional Media* 20(4), 289-307.

Thach, E.C. & Murphy, K.L. (1995). *Competencies for distance education professionals*. Educational Technology Research and Development, 43(1), 57-79.

Tiene, D. (1997). Teaching via two-way television: the instructor's perspective. *International Journal of Instructional Media* 24(2), 123-130.

Willis, B. (1989). Teaching at a distance: planning for success. *International Journal of Instructional Media*, 16(2), 137-141

Willis, B. (1992). *Strategies for Teaching at a Distance*. ERIC Digest. Eric Clearinghouse on Information Resources, Syracuse, N.Y.

Willis, B. (1994). Enhancing faculty effectiveness in distance education. In B. Willis, ed. *Distance Education: Strategies and Tools*, 277-290. Englewood Cliffs, NJ: Educational Technology Publications.

Witherspoon, J.P. (1995). Details and serendipity: observations about effective distance education. *The Distance Educator* 1(3), 1,14-17.

Wolcott, L.L. (1993). Faculty planning for distance teaching. *The American Journal of Distance Education,* 7(1), 26-36.